Amendments to the Claims:

The following listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently amended) A method for the detection of cytosine methylations in DNA ~~is hereby characterized in that~~ comprising the steps of:

a) treating the DNA to be investigated ~~is reacted~~ with a chemical or with an enzyme so that 5-methylcytosine remains unchanged, while unmethylated cytosine is converted to uracil or to another base which differs from cytosine in its base-pairing behavior,

b) amplifying the ~~pretreated~~ treated DNA ~~is amplified by means~~ of step (a) using a polymerase and at least one Scorpion primer, whose 5'-end is joined with a probe via a linker ~~(Scorpion primer)~~, whereby a primer extension product is produced,

c) separating the primer extension product ~~is separated~~ from the matrix strand,

d) hybridizing the probe ~~hybridizes~~ intramolecularly to the primer extension product, whereby the hybridization occurs as a function of the methylation state of the DNA,

e) detecting ~~a detection is made of~~ whether a hybridization of the probe has occurred.

2. (Currently amended) The method according to claim 1, ~~further characterized in that~~ wherein the ~~reaction in step a) is produced~~ step of treating with a chemical or enzyme comprises treating with a bisulfite.

3. (Currently amended) The method according to claim 1, ~~further characterized in that~~ wherein the ~~reaction in step a) is produced by means of~~ step of treating with a chemical or enzyme comprises treating with a cytidine deaminase~~; the unmethylated cytidine reacts more rapidly than methylated cytidine~~.

4. (Currently amended) The method according to claim 1, ~~further characterized in that~~ wherein the amplification in step b) is carried out by means of a polymerase chain reaction.

5. (Currently amended) The method according to claim 4, ~~further characterized in that~~ wherein the polymerase chain reaction is carried out in the form of the MSP or heavy methyl method.

6. (Currently amended) The method according to claim 1, ~~further characterized in that~~ wherein the probe ~~bears~~ comprises two signal components which are found in spatial proximity to one another in the inactive form, and which are separated from one another by the hybridization of the probe to ~~a~~ the primer extension product.

7. (Currently amended) The method according to claim 6, ~~further characterized in that~~ wherein the two signal components ~~involve~~ comprise a quencher-fluorescent dye pair.

8. (Currently amended) The method according to claim 6, ~~further characterized in that~~ wherein ~~the~~ spatial separation of the two signal components in the inactive form is ~~assured~~ maintained by

the secondary structure of the probe, ~~particularly by~~ the secondary structure of the probe comprising a hairpin shape.

9. (Currently amended) The method according to claim 1, ~~further characterized in that~~ wherein the Scorpion primer ~~bears~~ comprises two signal components which are separated from one another in the inactive form, and which are brought into spatial proximity to one another by the hybridization of the probe to ~~a~~ the primer extension product.

10. (Currently amended) The method according to claim 9, ~~further characterized in that~~ wherein the two signal components in the active form generate a signal via fluorescence-resonance energy transfer.

11. (Currently amended) The method according to claim 1, ~~further characterized in that~~ wherein the probe comprises at least one signal component and ~~another~~ wherein an additional oligonucleotide ~~each bear~~ comprises at least one signal component, whereby the signal components of the probe and the additional oligonucleotide are found in spatial proximity to one another in the inactive form, and are separated from one another by the hybridization of the probe to ~~a~~ the primer extension product.

12. (Currently amended) The method according to claim 11, ~~further characterized in that~~ wherein the ~~two~~ signal components ~~involve~~ of the probe and the additional oligonucleotide comprise a

quencher-fluorescent dye pair.

13. (Currently amended) The method according to claim 11, ~~further characterized in that~~ wherein ~~the~~ spatial separation between the probe and the ~~other~~ additional oligonucleotide in the inactive form is ~~assured~~ maintained by a duplex structure.

14. (Currently amended) The method according to claim 1, ~~further characterized in that~~ wherein the probe comprises at least one signal component and ~~another~~ wherein an additional oligonucleotide ~~each bear~~ comprises at least one signal component, whereby the signal components of the probe and the additional oligonucleotide are separated from one another spatially in the inactive form, and are brought into spatial proximity to one another by the hybridization of the probe to ~~a~~ the primer extension product.

15. (Currently amended) The method according to claim 14, ~~further characterized in that~~ wherein the signal components of the probe and the additional oligonucleotide in the active form generate a signal via a fluorescence-resonance energy transfer.

16. (Currently amended) The method according to claim 14, ~~further characterized in that~~ wherein the ~~other~~ additional oligonucleotide binds in immediate proximity to the probe on the primer extension product.

17. (Currently amended) The method according to claim 1, ~~further characterized in that~~ wherein the amplifying step comprises amplifying several sequences ~~are~~ simultaneously ~~amplified~~.

18. (Currently amended) The method according to claim 1, ~~further characterized in that the amplification occurs by means of~~ wherein the amplifying step comprises amplifying using two Scorpion primers.

19. (Currently amended) The method according to claim 18, ~~further characterized in that~~ wherein the two Scorpion primers ~~bear~~ comprise different signal components.

20. (Currently amended) The method according to claim 18, ~~further characterized in that~~ wherein one of the Scorpion primers ~~bears~~ comprises a methylation-specific probe and the other Scorpion primer ~~bears~~ comprises a non-methylation-specific probe.

21. (Currently amended) The method according to claim 1, ~~further characterized in that~~ wherein the amplifying step comprises amplifying using two Scorpion primers and wherein one of the Scorpion primers ~~bears~~ comprises a methylation-specific probe and the other Scorpion primer ~~bears~~ comprises a mutation-specific or allele-specific probe.

22. (Currently amended) The method according to claim 1, ~~further characterized in that~~ wherein the amplifying step comprises performing a non-methylation-specific PCR amplification ~~takes~~

~~place~~, wherein the probe ~~bears~~ comprises a quencher and a dye molecule, which are found in spatial proximity to one another in the inactive form, and which are separated from one another by the hybridization of the probe to ~~a~~ the primer extension product ~~("methyl hairpin")~~.

23. (Currently amended) The method according to claim 1, ~~further characterized in that~~ wherein the amplifying step comprises performing an MSP amplification ~~takes place~~, wherein the probe ~~bears~~ comprises a quencher and a dye molecule which are found in spatial proximity to one another in the inactive form, and which are separated from one another by the hybridization of the probe to ~~a~~ the primer extension product ~~("MSP methyl hairpin")~~.

24. (Currently amended) The method according to claim 1, ~~further characterized in that~~ wherein the amplifying step comprises performing a heavy methyl amplification ~~takes place~~, wherein the probe ~~bears~~ comprises a quencher and a dye molecule which are found in spatial proximity to one another in the inactive form, and which are separated from one another in the hybridization of the probe to ~~a~~ the primer extension product ~~("heavy methyl hairpin")~~.

25. (Currently amended) The method according to claim 1, ~~further characterized in that~~ wherein the amplifying step comprises performing a non-methylation-specific amplification ~~takes place~~, wherein the probe ~~bears~~ comprises a dye molecule and another oligonucleotide ~~bears~~ comprises a quencher which are found in spatial proximity to one another in the inactive form, and which are separated from one another by the hybridization of the probe to ~~a~~ the primer extension product

~~("methyl duplex")~~.

26. (Currently amended) The method according to claim 1, ~~further characterized in that~~ wherein the amplifying step comprises performing an MSP amplification ~~takes place~~, wherein the probe ~~bears~~ comprises a dye molecule and another oligonucleotide ~~bears~~ comprises a quencher which are found in spatial proximity to one another in the inactive form, and which are separated from one another in the hybridization of the probe to ~~a~~ the primer extension product ~~("MSP methyl duplex")~~.

27. (Currently amended) The method according to claim 1, ~~further characterized in that~~ wherein the amplifying step comprises performing a heavy methyl amplification ~~takes place~~, wherein the probe ~~bears~~ comprises a dye molecule and another oligonucleotide ~~bears~~ comprises a quencher which are found in spatial proximity to one another in the inactive form, and which are separated from one another in the hybridization of the probe to ~~a~~ the primer extension product ~~("heavy methyl duplex")~~.

28. (Currently amended) The method according to claim 23, ~~further characterized in that~~ wherein the amplifying step comprises performing the amplification ~~is produced by means of~~ using two Scorpion primers, wherein one of the Scorpion primers ~~bears~~ comprises a methylation-specific probe and the other Scorpion primer ~~bears~~ comprises a non-methylation-specific probe ~~("quantitative methyl hairpin")~~.

29. (Canceled)

30. (Canceled)

31. (Withdrawn) A kit, consisting of at least one Scorpion primer, a polymerase and the necessary reagents for a polymerase chain reaction.